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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,412	07/21/2001	Itzhak Gurantz	9202	2398

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EXAMINER

CHOWDHURY, SUMAIYA A

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/910,412		GURANTZ ET AL.	
	Examiner		Art Unit	
	Sumaiya A. Chowdhury		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/14/05 have been fully considered but they are not persuasive.

(a) Applicant argues that **"The two-port network interface reflects signals transmitted to the second port back out the same port...The signals are not passed to another output port through a filter connecting between output ports, as in Carhart"** on page 6, 2nd paragraph, of the amendment filed 10/14/05.

In response, applicant is arguing that which is not claimed.

(b) Applicant argues that **"The signal transmitted from a communication station or centralized computer does not pass back down the same wire...In Carhart's approach, signals do not reach all devices in the building wiring"** on page 6, 1st paragraph, of the amendment filed 10/14/05.

In response, applicant is arguing that which is not claimed.

(c) Applicant argues that **"Claim 1 claims a 2-port network interface device installed between the POE and the remaining building wiring with a signal reflector between the two ports. The disclosure of Carhart does not disclose a 2-port network interface device with a signal reflecting circuit connected between the port connected to the POE side of the building wiring and the port connected to**

Art Unit: 2611

the terminal device side of the building wiring" on page 7, 3rd paragraph, of the amendment filed 10/14/05.

In response, applicant claimed that the network interface device **comprises** a first port, a second port, and a signal reflecting circuit. Applicant did not claim that the network interface device **consists** of the above mentioned elements. Therefore it is open ended, and the Carhart reference does meet the limitations.

(d) Applicant argues that **"The plurality of branches of the building wiring in Carhart do not experience signal coupling, as in applicant's invention and claim."** on page 7, 5th paragraph, of the amendment filed 10/14/05.

In response, Applicant's arguments with respect to claim 5 have been considered but are moot in view of the new ground(s) of rejection.

(e) Applicant argues that **"This different from Carhart's splitter/reflector, which employs coupling of signal between output ports, not signal reflecting using an impedance mismatch"** on page 8, 1st paragraph, of the amendment filed 10/14/05.

In response, applicant is arguing that which is not claimed.

(f) Applicant argues that **"Carhart does not have the frequency dependent signal coupling element located at the POE, but instead locates his signal passing circuit below the point of entry between splitter output ports"** on page 8, 4th paragraph, of the amendment filed 10/14/05.

In response, Carhart's network interface device is located at the POE and the signal passing circuit is located in the network interface device. Hence, the signal passing circuit is located at the POE.

(g) Applicant argues that **"The reflecting circuit of applicant's invention is an element that reflects the signal back to the path through which it was transmitted"** on page 9, 1st paragraph, of the amendment filed 10/14/05.

In response, applicant is arguing that which is not claimed.

(h) Applicant argues that **"the prior art references must teach or suggest all the claim limitations...Boesh does not suggest or provide motivation to apply the parallel resonant circuits to reflect signals in coaxial cable building wiring to enable communication over the wiring"** on page 9, 2nd and 3rd paragraph, of the amendment filed 10/14/05.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Carhart fails to disclose that the signal reflecting circuit comprises a parallel resonant circuit. Boesch was brought in to teach which a parallel resonant circuit implemented to reflect the energy. All the limitations were met by combining the two references.

(i) Applicant argues that **"it would not be obvious to combine the series resonant circuit of O'Shea with the signal interface system of Carhart"** on page 9, 4th paragraph, of the amendment filed 10/14/05.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Carhart fails to disclose the network interface device wherein the signal reflecting circuit comprises a series resonant circuit. O'Shea was brought in to teach a series resonant circuit implemented to reflect the energy. All the limitations were met by combining the two references.

Art Unit: 2611

(j) Applicant argues that **"it would not be obvious to combine the OFDM transmission system of Langlais with the signal interface system of Carhart"** on page 10, 2nd paragraph, of the amendment filed 10/14/05.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Carhart failed to disclose the signal distribution network, wherein the signal modulation is orthogonal frequency division multiplexing. Langlais was brought in to teach discloses a transmission system in which OFDM is employed to provide increased robustness against frequency selective fading or narrowband interference. All the limitations were met by combining the two references.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

Art Unit: 2611

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-5, and 7-9, are rejected under 35 U.S.C. 102(e) as being anticipated by Carhart (6,622,304).

Considering claim 1, Carhart discloses a network interface device (splitter reflector 25 – Fig. 2) connected to building wiring (coaxial cable 23 – Fig. 2, col. 8, lines 18-22), the building wiring comprising a point of entry (coaxial cable drop 24 – Fig. 2) and a plurality of branches connected to terminal devices (communications station 22 & central computing apparatus 21 – Fig. 2) for creating a signal distribution system (system 20 - Fig. 2, col. 8, lines 55-61) comprising

a first port (port 34 – Fig. 3, col. 9, lines 30-36) connected to the point of entry side of a branch of the building wiring;

a second port (port 35 – Fig. 3, col. 9, lines 60-63) connected to the terminal device side of a branch of the building wiring;

and a signal reflecting circuit (splitter reflector 25 – Fig. 2 & 3, col. 9, lines 9-14 & lines 30-35, col. 14, lines 66-67, col. 15, lines 1-10) connected between the first and second port.

Considering claim 5, Carhart discloses a signal distribution network (system 20 – Fig. 2, col. 8, lines 55-61) for transmitting modulated signals (col. 11, lines 9-12, col. 13, lines 58-66, col. 14, lines 23-26) using building wiring (coaxial cable 23) containing a plurality of branches comprising

a network interface device (splitter reflector 25 – Fig. 2) that reflects network signals originating in the building wiring back into the building wiring (The signals from (22 – Fig. 2) are coupled and **reflected** to (21 – Fig. 2). - col. 9, lines 9-14, col. 14, lines 66-67, col. 15, lines 1-10);

at least one signal splitter (splitter reflector 25 – Fig. 2); and

a plurality of terminal devices (communications station 22 & central computing apparatus 21 – Fig. 2).

Considering claim 4, Carhart discloses the network interface device wherein the signal reflecting circuit comprises a splitter (31,32) with a first tap port (port connected to splitter (31) towards the bottom right splitter (32)), a second tap port (port connected to splitter (31) towards low pass filter (30)) and a common port (port connected to splitter (31) towards the top right splitter (32)), wherein the power at the first and second tap ports is coupled bi-directionally to the common port;

the common port connected to a branch of building wiring (The port connected to splitter (31) towards the top right splitter (32) is connected to splitter (32) which is connected to output port (35), which is attached to coaxial cable (23). – col. 9, lines 30-35 & lines 5-10);

a first filter (high pass filter 33 – Fig. 3) for separating bands of frequencies connected to the first tap port (High pass filter (33) is connected to splitter (32) which is connected to the first tap port in splitter (31). – col. 9, lines 51-56, col. 10, lines 8-12);

means (30-32) for reflecting signal energy connected to the first filter (col. 10, lines 6-18);

and a second filter (low pass filter 30 – Fig. 3) for separating band of frequencies connected between the second tap port and the point of entry (port 34 – Fig. 3; col. 9, lines 35-43).

Considering claim 7, Carhart discloses the signal distribution network, wherein the building wiring is coaxial cable (col. 8, lines 18-20 & lines 58-61).

Considering claim 8, Carhart discloses the signal distribution network, wherein the network interface device (splitter reflector 25 – Fig. 2) is located at the point of entry

Art Unit: 2611

(coaxial cable drop 24 – Fig. 2) of the building wiring (23 – Fig. 2, The reflector (25) is connected to the CATV System (10) through coaxial cable drop (24). The reflector (25) has an input port (34) connected to the coaxial cable drop (24) through which the CATV cable signals enter. – col. 9, lines 30-37).

Considering claim 9, Carhart discloses the signal distribution network, wherein the network interface device (splitter reflector 25 – Fig. 2) is frequency dependent and reflects signals by reflecting a predetermined frequency band of signals (The reflector (25) comprises of filters which allow signals of selected frequencies to pass through. The signals which do not comply with the cutoff frequency are **reflected**. The filters and splitters in reflector (25) are bidirectional, as can be seen in Fig. 3. As a result, signals are coupled and outputted to port (35). - col. 9, lines 30-38 & lines 60-67, col. 10, lines 3-18).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Boesch (5,969,582).

Considering claim 2, Carhart fails to disclose that the signal reflecting circuit comprises a parallel resonant circuit.

In an analogous art, Boesch discloses a system in which a parallel resonant circuit is implemented to reflect the energy. The resonant frequency of a parallel resonant circuit is the frequency at which the parallel impedance is maximum, thus allowing the signal to be effectively reflected. – col. 4, lines 63-67 & col. 5, lines 1-5.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include a parallel resonant circuit in the signal reflecting circuit, as taught by Boesch, for the advantage of reflecting energy such that terminal devices could transmit/receive messages.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of O'Shea (4,933,745).

Considering claim 3, Carhart fails to disclose the network interface device wherein the signal reflecting circuit comprises a series resonant circuit.

In an analogous art, O'Shea discloses a system in which a series resonant circuit is implemented to reflect the energy. The resonant frequency of a series resonant circuit is the frequency at which the series impedance is a minimum, thus allowing the signal to be effectively reflected. - col. 5, lines 1-10

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include a series resonant circuit in the signal reflecting circuit, as taught by O'Shea, for the advantage of reflecting energy such that terminal devices could transmit/receive messages.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Langlais (6,091,932)

Considering claim 6, Carhart fails to disclose the signal distribution network, wherein the signal modulation is orthogonal frequency division multiplexing.

In an analogous art, Langlais discloses a transmission system in which OFDM is employed to provide increased robustness against frequency selective fading or narrowband interference. – col. 10, lines 55-58.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include orthogonal frequency division multiplexing as the desired type of signal modulation, as taught by Langlais, for the advantage of providing a more robust communication technique for distributing signals.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Margulis (2001/0021998)

Considering claim 17, Carhart fails to disclose that the signal distribution network uses code division multiplex for signal modulation.

In an analogous art, Margulis discloses a system in which code division multiplex is implemented – paragraph 0055, 0063, and 0070.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include code division multiplex, as taught by Margulis, for the advantage of providing high user capacity and protection from interference from other signals.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Langlais as applied to claim 6 above, and further in view of Horton (6,788,707).

Considering claim 18, Carhart discloses a signal distribution network wherein terminal devices communicate with each other. However, he fails to disclose that the terminal devices communicate with each other using time division duplex protocol.

In an analogous art, Horton discloses a cable network in which Time Division Multiple Access (TDMA) is implemented to facilitate communication in both the upstream and downstream direction – col. 4, lines 9-16.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include TDMA, as taught by Horton,

Art Unit: 2611

for the advantage of facilitating communications between devices wherein a single frequency supports simultaneous data channels.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

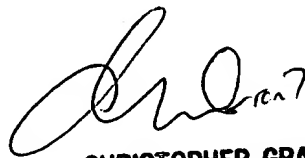
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumaiya A. Chowdhury whose telephone number is (571) 272-8567. The examiner can normally be reached on Mon-Fri, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAC



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